BOOK OF ABSTRACTS

ANTHOCYANIN PROFILES OF POMACE SKINS OF INTERNATIONAL AND INDIGENOUS GRAPE VARIETETY DETERMINED BY UHPLC-MS/MS ORBITRAP

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During the winemaking production, a significant amount of different by-products is generated, which can be used as a rich source of valuable phenolic compounds, primarily anthocyanins. The aim of this study was to determine anthocyanin profiles of oven dried non-fermented grape pomace skins (GPS) of international (Merlot) and autochthonous (Prokupac) grape varieties. Anthocyanins were extracted from GPS with acidified methanol (MeOH) and aqueous ethanol (50:50 v/v, EtOH), evaporated to dryness, reconstituted in milliQ water and further analysed by UHPLC-MS/MS OrbiTrap. Both GPS extracts of international Merlot wine variety had a significantly higher content of total (6.95-9.97 times) and individual anthocyanins, in comparison to the GPS extracts of the autochthonous Prokupac variety. Further, the content of total and individual anthocyanins were significantly higher in the MeOH extracts, probably due to the increased stability of anthocyanins in an acidic environment. In total, thirteen anthocyanin derivatives were identified in all analysed GPS extracts, primarily malvidin derivatives for both varieties (70.8-81.4% of total quantified anthocyanins); which is in agreement with literature data. Malvidin, peonidin and petunidin glucoside were predominantly quantified in MeOH extracts of Merlot (142.79, 53.30 and 43.28 mg/kg DM), while other glucosides were detected in traces. Methanolic and aqueous extracts originated from Merlot variety, contained various acetyl, caffeoyl and coumaroyl derivatives of anthocyanins found in significant amounts, primarily malvidin-3-*O*-(6"-acetyl)hexoside (100.82 and 112.98 mg/kg DM) and malvidin-3-*O*-(6"-*p*-coumaroyl)hexoside (9.47-145.96 mg/kg DM). Based on data, GPS can be a good source of anthocyanins (primarlly from Merlot variety), potential natural colorants and functional additives in the food industry.

Keywords: grape pomace skin; Merlot; Prokupac; UHPLC-MS/MS OrbiTrap; anthocyanins

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